

IN THE ABSTRACT:

Please DELETE the Abstract in its entirety and substitute the following new Abstract.

An apparatus for and a method of correcting an error using a low density parity check (LDPC) matrix. A resultant matrix is generated by performing XOR and modular 2 operations with respect to the LDPC matrix and a code word vector and a number of 1 bits in the resultant matrix is detected. If the number of 1 bits and a column weight of the LDPC matrix are equal, a column of the LDPC matrix having bit values corresponding to bit values of the resultant matrix, respectively, is identified and the codeword is corrected by changing a binary value of a bit of the code word vector having a bit number corresponding to the identified column number. Otherwise the error correction is terminated without correcting the error.